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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,720	03/11/2004	Ulrich Krumbein	1890-0064	5005

7590 05/16/2005
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EXAMINER

KESHAVAN, BELUR V

ART UNIT	PAPER NUMBER
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2823

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

11/2

Office Action Summary	Application No. 10/798,720	Applicant(s) KRUMBEIN ET AL.	
	Examiner Belur V. Keshavan	Art Unit 2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-31 is/are pending in the application.
- 4a) Of the above claim(s) 20-22 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-18 is/are allowed.
- 6) ☒ Claim(s) 19, 23, 24, 26 and 28-31 is/are rejected.
- 7) ☒ Claim(s) 25 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05/26/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status Of Claims

In response to Restriction Requirement applicants elected claims of Group I, claims 12-19 and 23-31 without traverse.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 19 and 30 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 19, the phrase “wherein a lateral dimension of the area is at least as great as a lateral dimension” and in claim 30, the phrase “wherein a lateral dimension of the plurality of regions is at least as great as a lateral dimension” is not clear as to what the applicants are claiming.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 23, 24, 26, 28, 29 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by applicants' accepted prior art, here afterwards AAPA.

Regarding claims 23 and 24, AAPA discloses in figure 3, a field effect transistor comprising: a substrate (30), having first conductivity type; a drain area (50) having a second conductivity type opposite to the first conductivity type; a source area (40) in the substrate laterally spaced from drain area and having a doping of the second conductivity type; a channel area (98) in the substrate disposed between the source area and the drain area; and a plurality of regions of the second conductivity type (52, 54) extending from the drain area into a portion of the substrate having the first conductivity type forming alternating regions having the first conductivity type and having the second conductivity type (98, 40, 60, 40').

Regarding claim 26, AAPA discloses in figure 3 wherein the plurality of regions has a comb-shaped cross section.

Regarding claim 28, AAPA discloses in figure 3 wherein: the substrate comprises a base substrate (10) having a surface (14) and an epitaxial layer (20) epitaxially grown on the surface of the base substrate; the source area (40), the drain area (50), and the channel area (98) are disposed in the epitaxial layer; and

the plurality of regions (52, 54) extend from the drain area (50) towards the surface of the base substrate.

Regarding claims 29 and 31, AAPA discloses in figure 3 a field effect transistor wherein the drain area includes a low doped drain sub-area having three laterally adjacent plurality of drain portions (50, 52, 54) in which a doping concentration in a direction toward the channel area (98) decreases.

Allowable Subject Matter

Claims 25 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 12-18 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the indication of the allowability of claims 12-19 is the inclusion therein, in combination as currently claimed, of the limitation of the area having a doping of the second conductivity type, the area connected to the drain area and arranged in a portion of the substrate adjacent to the drain area such

that alternating regions having the first conductivity type and having the second conductivity type are disposed in the portion.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Belur V. Keshavan whose telephone number is 571-272-1894. The examiner can normally be reached on 8-4:30 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 571-272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BVK. *BK*
May 12, 2005.


OLIK CHAUDHURI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800